

FIG. 1

The nucleotide coding sequence (SEQ ID NO:1) and amino acid sequence (SEQ ID NO:2) of bovine lysozyme

atg aag gct ctc gtt att ctg ggg ttt ctc ttc ctt tct gtc gct
M K A L V I L G F L F L S V A

gtc caa ggc aag gtc ttt gag aga tgt gag ctt gcc aga act ctg
V Q G K V F E R C E L A R T L

aag aaa ctt gga ctg gac ggc tat aag gga gtc agc ctg gca aac
K K L G L D G Y K G V S L A A N

tgg ttg tgt ttg acc aaa tgg gaa agc agt tat aac aca aaa gct
W L C L T K W E S S Y N T K A

aca aac tac aat cct agc agt gaa agc act gat tat ggg ata ttt
T N Y N P S S E S T D Y G I F

cag atc aac agc aaa tgg tgg tgt aat gat ggc aaa acc cct aat
Q I N S K W W C N D G K T P N

gca gtt gac ggc tgt cat gta tcc tgc agc gaa tta atg gaa aat
A V D G C H V S C S E L M E N

gac atc gct aaa gct gta gcg tgt gca aag cat att gtc agt gag
D I A K A V A C A K H I V S E

caa ggc att aca gcc tgg gtg gca tgg aaa agt cat tgt cga gac
Q G I T A W V A W K S H C R D

cat gac gtc agc agt tac gtt gag ggt tgc acc ctg taa
H D V S S Y V E G C T L *

FIG. 2 (sheet 1 of 4)

Nucleotide sequence of the plasmid p1044-BoLys

(extends from nucleotides 5767 – 6211 of the viral vector; the sequence encoding bovine lysozyme, including the stop codon, is inserted as a PacI-Xhol fragment and is shown in lower case letters, underscored)

GTATTTTAC AACATTACC AACAAACACA AACAAAGAC AACATTACAA TTACTATTA CAATTACAAT GGCATACACA CAGACAGCTA
CACATCAGC TTTGCTGGAC ACTGTCCGAG GAAACAACTC CTGGTCAAT GATCTAGCAA AGCGTCGCT
AGTTAACGC TCGTGACCGC AGGCCAACGG TGAACTTTTC AAAAGTAATA AGCGAGGAGC AGACGCTTAT TGCTACCCGG GCGTATCCAG
AATCCAAT TACATTAT AACACGCCAA ATGCCGTGCA TTICGCTTGCA GGTGGATTTC GATCTTTAGA ACTGGAATAT CTGATGATGC
AAATTCCCTA CGGATCATTTG ACTTATGACA TAGGGGGAA TTTTGATCG CATCTGTTCA AGGGACGAGC ATATGTCAC TGCTGCATGC
CCAACCTGGA CGTTGAGAC ATCATGGGC ACGAAGGCCA GAAAGACAGT ATGAAACTAT ACCTTCTAG GCTAGAGAGA GGGGGAAAAA
CAGTCCCCAA CTTCCAAAAG GAAGCATTTG ACAGATACGC AGAAATTCCT GAAGACGCTG TCTGTCACAA TACTTCCAG ACATGCGAAC
ATCAGCCGAT GCAGCAATCA GGCAGAGGTG ATGCCATTG GCTACACAGC ATATATGACA TACAGCCGA TGGATCCT
TGAGGAAAAA TGTCCATACG TGCTATGCCG CTTTCCACTT CTCCGAGAAC CTGCTCTTG AAGATCATG CGTCATTG GACGAAATCA
ACGGGTGTT TTGCGGGAT GGAGACAGT TGACCTTTTC TTTTGATCA GAGAGTACTC TAAATACTG TCATAGTTAT TCTAATATT
TTAAGTATGT GTGAAAATC TACTTCCGG CCTCTTAATAG AGAGGTTAC ATGAAAGGAT TTTTAGTC CAGAGTTAAAT ACCTGGTTT
GTAAGTTTC TAGAATAGT ACTTTTCTT TGACAAAGG TGTGGCCAT AAAGTGTAG ATAGTGGCA GTTTTAACT GCAATGGAAG
ACGGATGGCA TTACAAAAAG ACTCTTGCAA TGTGCAACAG CGAGGAAATC CTCCTTGAGG ATTCAATCATC AGTCAATTAC TGTTTCCC
AAATGAGGA TATGTCATC GTACCATAT TCGACATTTC TTTGGAGACT AGTAAGAGGA CGCGCAAGGA AGTCTTAGTG TCCAAGGATT
TCGTGTTAC AGTGTAAAC CACATTGAA CATACCAGGC GAAAGCTCTT ACATACGAA ATGTTTGTGTC CTTGTCGAA TCGATTGAT
CGAGGGTAAAT CATTAAACGGT GTGACAGCGA GGTCCGGAATG GGATGGGAC AAATCTTTG TACAATCCTT GTCCATGACG TTTTACCTGC
ATACTAAGCT TGGCGTTCTA AAGGATGACT TACTGATTAG CAAGTTAGT CTCGGTTCGA AAACGGTGTG CAGCATGTT
TTTCGCTGGC GTTGGGAAC GCATTTCCT CCGTGAAGA AACAGGAAC TTATCAGAGT GGGATGAGA
TCAGGGTGC TGATCTATAT GTGACCTTC ACGACAGATT AGTGAATGAG TACAAGGCCT CTGTTGACAT GCCTGGCCT
AGAAGATGGAA AGAACACGGAA AGAATTATCG GTGTTAAGGG AGTCTGACAA ATTCAATTAC GATGTTTT
CCCAGATGTG CCAATCTTG GAAAGTTGACC CAATGACGGC AGCGAAGGTT ATAGTCGCGG TCATGAGCAA TGAGGGGGT CTGACTCTCA
CATTTGAAGC ACCTAATGAG GCGAATGTTG CGCTAGCTT ACAGGATCAA GAGAAGGCT CAGAAGGTGCA ATTGGTAGTT ACCTCAAGAG
AAGTTGAAGA ACCGTCATG AAGGGTTCGA TGGCCAGAGG AGAGTTACAA TTAGCTGGTC TTGCTGGAGA TCATCCGGAA
CTAAGAACGA GGAGATAGAG TCTTTAGAGC AGTTCATAT GGGGAGGGCA GATTGCTTAA TTCGTAAGCA GATGAGCTCG
CGGGTCCGAT TAAAGTTGAG CAAATGAAA ACTTATCGA TAGCCTGGTA GCATCACTAT CTGCTGGGT GTCGAAATCTC
TCAAAGATAC AGCTGCTATT GACCTTGAAA CCCGTTAATC GTTGGAGTC TTGGATGTTG CATCTAGGA GTGCTAGAA AAACCAACGG

FIG. 2 (sheet 2 of 4)

CCAAGAGGCA TGCATGGGGT GTTGTGAAA CCCACGGAG GAAAGTATCAT TGGAATATGA TGAGCAGGGT TGCGCGCTT TGGCAGGGT GTCGCTGCAA
GGCATGATT GAGAAAGGTA CTGAGTCTGT TGTTTATTCC GACATGGGA AACTCAGAAC TCTGCGCAGA AGAAATTCTT TCCAGGGTTA
ACGGAAACC GCATGTCAGT AGCGCAAGG TTGTTCTGT GGACGGAGT CCGGGCTGTG GAAAACCAA AGAAATTCTT CTCAGGGATT ATTGTGGCA
ATTTTGATGA AGATCTAATT TTAGTACCTG GGAGCAAGC CGGGAAATG ATCAGAAGAC GTGCGAATTG CTCAGGGATT ATTGTGAAG
CGAAGGCAA CGTAAACCC GGTGTGATTT GCATACTGGT TGTGTTAATT TTGTTGGAAA AGCACACGCT GTCAAGTCAA GAGCAGATTC
GGGTGTGATTT GCATACTGGT TGTGTTAATT TTGTTGGCC GATGTCATTG TGCGAAATTG CATATGTTA CGGAGACACA CAGCAGATTC
CATACATCAA TAGAGTTCA GGATTCCCGT ACCCGGCCA TTTTGCCAAA TTGGAAGTGT AGCAGGTGGA GACAGCGAGA ACTACTCTCC
GTGTGCAAGC CGATGTCACA CATTATCTGA ACAGGAGATA TGAGGGCTT GTCAATGAGCA CCTTCTCGGT TAAAAGTCT GTTTCGAGG
CGGAGCCGCC GTGATCACT CGATCTCAA ACCCTTGCA TGACTTTAC CCAATCGGAT TCAATGGAT CCAATCGGAT AAAGAAGCTC
AGATGGTGG AGGGTAAAG AGGTATTCA GATGTTCACAGTGTGCAAGC AGTGCAGGC GAGACATAC TGATGTTTCA ACTAGTGTAGG
TGCTTCAAG AGGTATTCA CATTATGCA GGAGACAGCC CACATGGT GGTGCGATTG TCAAGGGACA CCTGTTCGGT CAAGTACTAC
CACCGGTCTC CATCATTGCA GGAGACAGCC CACATGGT ATTAGAGATC TAGAGAAACT TAGCTCGTAC TGTTAAGGT CGATGAGGA
TGGATCCTT AGTAGTATC ATTAGAGATC TAGAGAAACT TAGCTCGTAC TGTTAAGGT CGATGAGGA ACACAATAGTC
AATTACAGAT TGACTCGGTG TTCAAGGTT CCAATCTTT TGTTGAGGG CAAAGAGCTG GTGATATTTC TGATATGCA
ATAAAGTGTCT CCCAGGCAAC AGCACCATGA TGAAATAATT TGATGCTGTT ACCATGAGGT TGACTGACAT TTCAATTGAAT
GCATATTGGA TATGCTAAG TCTGTGCTG CGCTTAAGGA TCAAATCAA CCACTAATAC CTATGGTACG AACGGGGGCA
GCCAGACTGG ACTATTGGA AATTAGTGG CGATGATTAA AAGAAACTT AACGGCACCAG AGTTGCTGG CATCATTGAT ATTGAAAATA
CTGCATCTT GGTGTGAGAT AAGTTTTG ATAGTTATT GCTTAAGAA AAAAGAAAAC CAAATAAAAAT TGTTCTTGT TTCACTAGAG
AGTCTCTAA TAGATGGTA GAAAAGCAGG AACAGGTAAC AATAGGCCAG CTGGCAGATT TTGATTTGT GGATTGCGCA
AGTACAGACA CATGATTAA GCACACCCA AACAAAAGT GGACACTTCA ATCCAAACGG AGTACCCGGC
ATTCAAAATAA GATCAATGCA ATATTGGCC CGTTGTTAG TGAGCTTAC AGGCAATTAC TGGACAGTGT
TTTTCACAG AAGGACACCA GGCAGATTG AGGATTCTT CGGAGATCTC GACAGTCATG TGCGATGGA
CAAATACGA CAATCTCAG AATGAATTCC ACTGTGCAAG AGAATACGAG ATCTGGGCAA GATTGGTTT CGAAGACTTC
TTGGAAACA AGGGCATAGA AAGACACCC TCAAGGATTA TACCGCAGGT ATAAAAAATT GCATCTGGTA TCAAAGAAAG
TCAGGACGTT CATTGAAAC ACTGTGATCA TTGCTGCATG TTGGCTCG ATGCTTCCGA TGGAAAAT AATCAAAGGA
GTGACGATAG TCTGCTGTAC TTCCCAAGG GTTGTGAGT TCCGGATGTG CAAACACTCAG CGAACTCTT
TGTAAAGAA ACAGTATGGA TACTTTGCG GAAGATATGT AATACATCAC GACAGAGGAT GCATGTTGTA
TCTCGAAACT TGGTGTCAAAC CACATCAAGG ATGGGAACCA CTGGAGGAG TCAGAAAGT CTCTTGTGA
ATTGTGCGTA TTACACACAG TTGCGACGAGC CTGATGGGA GGTTCATAAG ACCGGCCCCCTC CAGGTTGCGTT
AGTATTGTC TGATAAAGT CTTTTAGAA GTTGTGTTTAT AGATGGCTCT AGTTGTTAAAGAG TGTTATGTGT
CTGACAAAATGGAGAAGAT CTTACCGTGTG ATGTTTACCC CTGTAAGTGT TCCAAGTGT ATAAAATAAT GGTTCATGAG
AATGAGTCAT TGTCAAGGGT GAACCTCTT AAGGAGGTT AGCTTATTGA TAGTGGATAC GTCTGTTAG
GAGTGGAAACT TGCCCTGACAA TTGCAAGGGA GGTGTGAGCG TGTGTCTGGT GACAAAGG ATGAAAAGAG
CTGACAAAATGGAGAAGAT CTTACCGTGTG ATGTTTACCC CTGTAAGTGT TCCAAGTGT ATAAAATAAT GGTTCATGAG
CCGACGAGGC CATITCTCGGA

FIG. 2 (sheet 3 of 4)

TCTTTACTACA CAGCAGCTGC AAAGAAAAGA TTTCAGTTCA AGGTCTTCC CAATTATGCT ATAACCACCC AGGACCGCAT GAAAAACGTC
 TGGCAAGTT TAGTTAATAT TAGAAATGTG AAGATGTCAG CGGGTTCTG TCCGCTTCTG CTGGAGTTG TGTCTGTTG TATTGTTAT
 AGAAATAATA TAAAATTAGG TTGAGAGAG AAGATTACAA ACGTGAGAGA CGGAGGGCCC ATGGAACCTA CAGAAGAAGT CGTTGATGAG
 TTCATGGAG ATGCCCCAT GTCGATCAGG CTTGCAAAGT TTGCAATCTG AACCGGAAA AAGAGTGTG TCCGCAAAGG GAAAATAGT
 AGTAGTGATC GGTCAAGTGCC GAACAAGAAC TATAGAAATG TTAAGGATTI TGGGGAATG AGTTTAAAA AGAATAATTI AATCGATGAT
 GATTGGAGG CTACTGTGCGC CGAATCGAT TCGTTTAAA TAGATCTTAC AGTATCACTA CTCCATCTCA GTTCTGTTG TTGTCATCAA
 TTAATAAA
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ttt gcc aga act ctg aag aaa ctt gga ctg gac ggc tat aag gga gtc aac tac aac tac aat cct agg acg act gat gaa
aaa tgg gaa agc agt tat aac aca aaa gct aca aac tac aca aac tac aat cct aat gca gtt gac ggc tgt cat gta
cag atc aac agc aac tgg tgt aat gat ggc aaa acc cct aat gca gtt gac ggc tgt cat gta tcc tgc agc
gaa tta atg gaa aat gac atc gct aaa gct gta qcg tgt qca aag cat att gtc aat gtc aat gac gaa gtc att aca gcc
tgg gtg gca tgg aaa agt cat tgt cga gac cat gac gtc agc aat tac gtt gag ggt tgc acc ctg taa
CTCGAGGGGT AGTCAGATG CATAATAAT AACGGATTGT GTCCGTAAATC ACACGGTTG CGTACGATAAA CGCATAGTGT TTTTCCCTCC
ACTTAAATCG AAGGGTTGTG TCTTGGATCG CGCGGGTCAA ATGTTATGG TCATATACA TCCGCCAGCA CGTAATAAGG CGAGGGTTTC
GGGTGAGGGT CGGCTGTGAA ACTCGAAAAG GTTCCGGAAA ACAAAAAAGA GAGTGGTAGG TAATAGTGT AATAATAAGA AAATAATAAA
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GCTATAAGGG CTTCAATCAA TAATTGGCT GGCTACTTAG CTATTGTTG GAGATTCTCT AAAATAAAAGT CACTGAAGAC TAAAATTCA GGGTGGCTGA
TACCAAATC ACCAGTGGTT GTTCGTCCAC TTAAATAAA CGATTGTCAT ATCTGGATC AACAGTTAAA CCATGGTGTGATG GTGTATACTG
TGGTATGGCG TAAAACAAC GAAAAGTCGC TGAGACTTA AAATTCAAGG TGCTGTGATAC CAAATCAGC AGTGGTTGTT CGTCACCTTA
AAAATAACGA TTGTCAATTC TGGATCCAAC AGTAAACCA TGTGATGGTG TATACTGTG TATGGCGTA ACAACGGAG AGGTGCAAT
CCTCCCCCTAA CGGGGGTAG CGGCCCAAGGT ACCCGGATGT GTTTTCGGGG CTGATGAGTC CGTGAGGACG AAACCTGGCT GCAGGCATGC
AAGCTTGGCG TAAIcatgtt catAGCTGTT CTCCTGTTGA AATTGTATC CGCTCACAA TCCACACAA ATACGAGCC GAAGCATAAA
GTGTAAGGCC TGGGGTGCCT AATGAGTGT CTAACTCACA TTAATTGCCT TGCGCTCACT GCCCGTTTC CAGTCGGAA ACCTGTCGTG
CCAGCTGCAT TAATGAATCG GCCAACGGGC GGGGAGAGGC TTGTTGGTGA TTGGGGCGCTC TTCCGCTTCC TGCTCACTG ACTCGCTGC

FIGURE 2 (sheet 4 of 4)

CTCGGTGTT CGGCTGGGC GAGGGGTATC AGCTCACTCA AAGGGGTAA TAGGGTTATC CACAGGAATCA GGGGATAACG CAGGAAGAA
CATGTGAGCA AAAGCCAGC AAAAGGCAG GAACCGTAAA AAGGCCGGT TGTGGGCGT TTTCCATAGG CTCCGGCCCC CTGACGGACA
TCACAAAAAT CGACGCTCAA GTCAAGGGTG GCGAAACCCG ACAGGACTAT AAAGATACCA GGCGTTTCCC CCTGGAAAGCT CCCTCGTGC
CTCTCCTGTT CCGACCCCTGC CGCTTACCGG ATACCTGTCC GCCTTCTCC CTTCGGGAAAG CGTGGCGCTT TCTCATAGCT CACGCTGTAG
GTATCTCAGT TCGGTGTTAG TGTTTCGCTC CAAGCTGGGC TGTGTGACG AACCCCCCGT TCAGCCGCAC CGCTGCGCCT TATCCGGTAA
CTATCGTCTT GAGTCAACC CGGTAAAGACA CGACTTATCG CCACTGGCAG CAGCCACTG TAACAGGATT AGCAGAGCGA GGTATGTAGG
CGGTGCTACA GAGTCTTGA AGTGGTGGCC TAACTACGGC TACACTAGAA GGACAGTATT TGGTATCTGC GCTCTGCTGA AGCCAGTTAC
CTTCGGAAA AGAGTGGTA GCTCTTGATC CGGCAAACAA ACCACCGCTG GTAGGGTGG TTTTTTTGTT TGCAAGCAGC AGATTACGCG
CAGAAAAAA GGATCTCAAG AAGATCCTT GATCTTTCT ACGGGGCTG ACGCTCAGT GAACGAAAC TACAGTTAAG GGATTTGGT
CATGAGATA TCAAAAAGGA TCTTCACCA GATCCCTTTA AATTAAAAAT GAAGTTTAA ATCAATCTAA AGTATATAG AGTAAACTTG
GTCTGACAGT TACCAATGCT TAATCAAGTG GGCACCTATC TCAGCGATCT GTCTATTTCG TTCAATCCATA GTTGCCTGAC TCCCCGTCG
GTAGATAACT ACGGATACGGG AGGGCTTAAC ATCTGGCCCC AGTGCTGCAA TGATACCGCG AGACCACAGC TCACCGGGCTC
AGCAATAAAC CAGCAGCGC GAAAGGGCGA GGCAGAAGT GGTCCCTGCAA CTTTATCCGC CTCCATCCAG TCTATAATT GTGCGGGGA
AGCTAGAGTA AGTAGTTGCG GGCTTCATTC AGCTCCGGTT CCCAACGATC AAGGGGAGTT ACATGATCCC CCATGTTGTG CAAAAAAGC
GATCGTTGTC AGAAGTAAGT TGGCCGCACT AGTACTCACTC GTTATCACTC ATGGTTATGG CAGCACTGCA TAATTCTCTT ACTGTCATGC
ATGCTTTTCT GTGACTGGTG AGTACTAAC CAAGTCATT TGAGAATAGT GTATGCGGG ACCGAGTTGC TCTGGCCGG CGTCAAATACG
GGATAATACC GCGCACATA GCAGAACATT AAAAGTGTCTC ATCATTGGAA AACGTTCTTC GGGGGAAAA CTCTCAAGGA TCTTACCGCT
GTTGAGATCC AGTTCGATGT AACCCACTCG TGCAACCCAAAC TGATCTCAG CATCTTTAC TTTCACCAAGC GTTCTGGGT GAGCAAAAC
AGGAAGGCCA AATGCCAA AAAAGGGAAAT AAGGGCACA CGGAAATGTT GAAATACTCAT ACTCTTCCTT TTCAATATT ATTGAAGCAT
TTATCAGGGT TATTGTCATC TGAGGGATA CATATTGAA TGTATTGAA AAAATAAAACA AATAGGGTT CCGGCACAT TTCCCCGAAA
AGTGCCACCT GACGTCTAAG AAACCATAT TATCATGACA TTAACCTATA AAATAAGGC TATCAGGAG CCCTTTCGTC TGCGCGTT
CGGTGATGAC GGTAAAACC TCTGACACAT GCAGCTCCCG GAGACGGTCA CAGCTTGTCT GTAAGGGAT GCCGGGAGCA GACAAGCCCG
TCAGGGCCG TCAGGGGGTG TTGGCGGTG TCGGGGGCTGG CTTAACTATG CGCAGATCAGA GCAGATTGTA CTGAGAGTGC ACCATATGCG
GTGTGAAata ccgcacagat 9CGTAAGGAG AAAATACCCG ATCAGGGCA TTGGCCATTIC AGGCTGGCA ACTGTTGGGA AGGGCGATCG
GTGCGGGCCT CTTCGCTATT AGGCCAGCTG GCGAAAGGGG GATGTGCTGC AAGGGGATTA AGTGGTAA CGCCAGGGTT TTCCCAAGTCA
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Fig. 3.

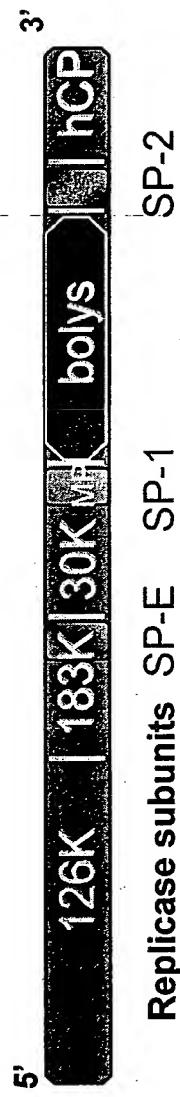
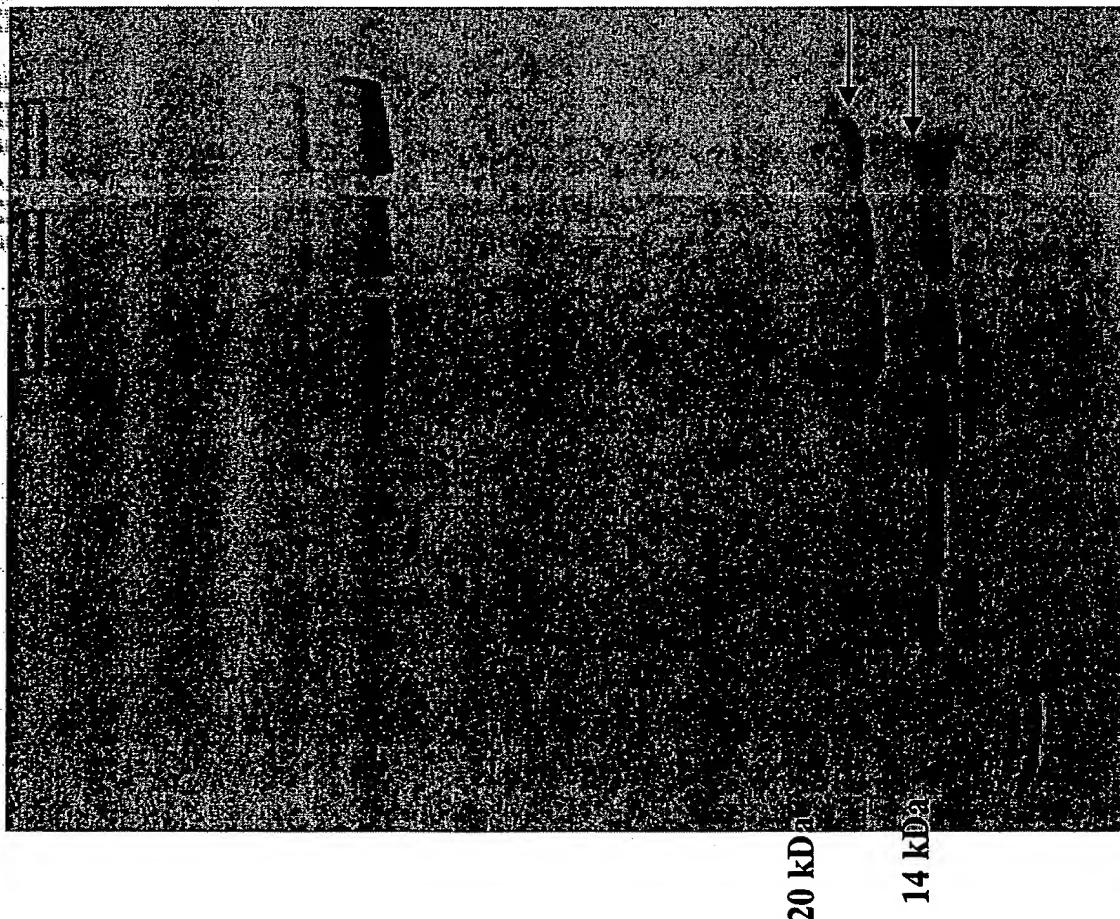


Fig. 4



10-20% Tris-Glycine SDS PAGE gel

**14% Tris-Glycine
SDS-PAGE gel**

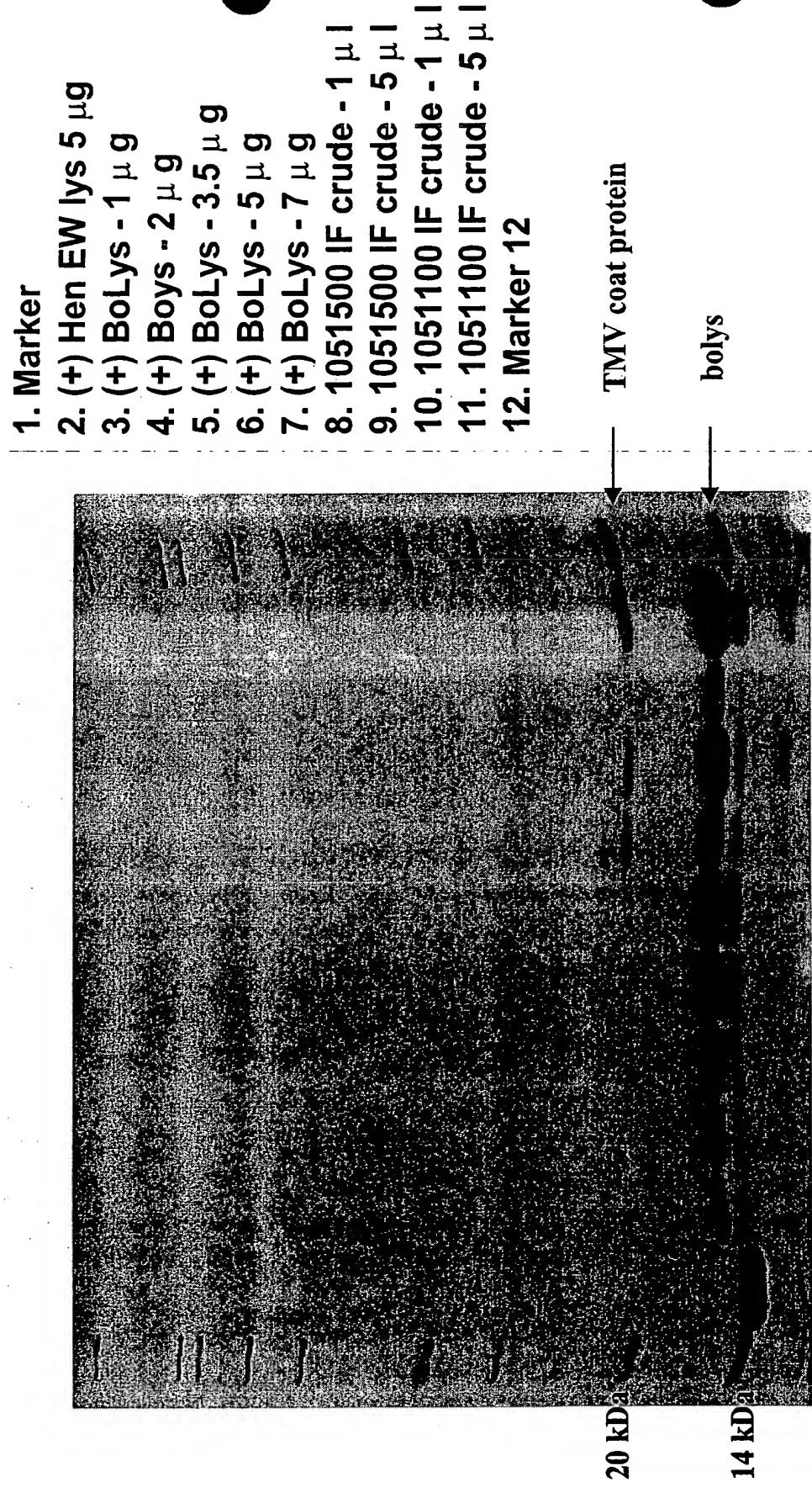
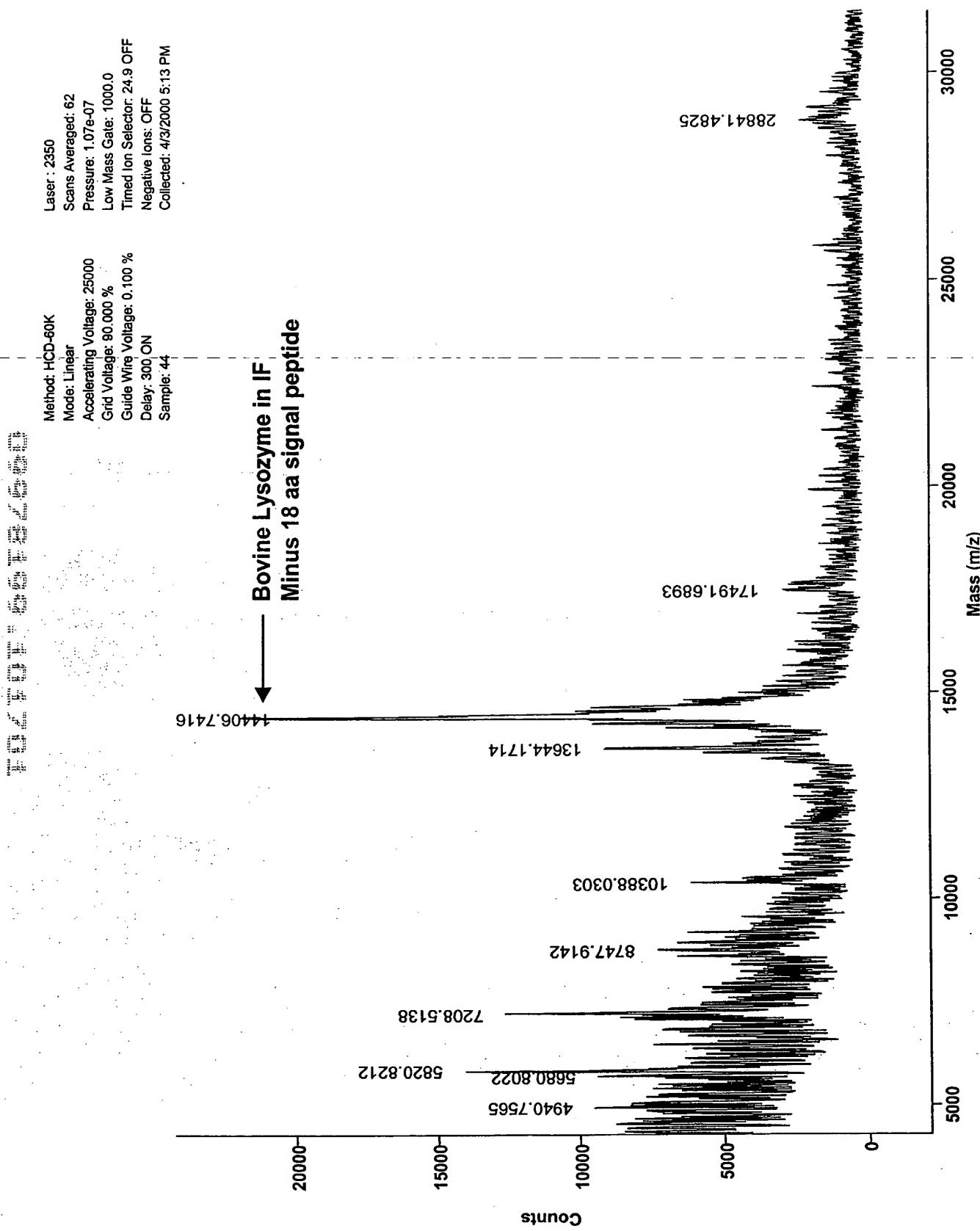


Fig. 5

Fig. 6



10=9=00_(2) Chart 1

3K vs. Standard (Turbidimetric)

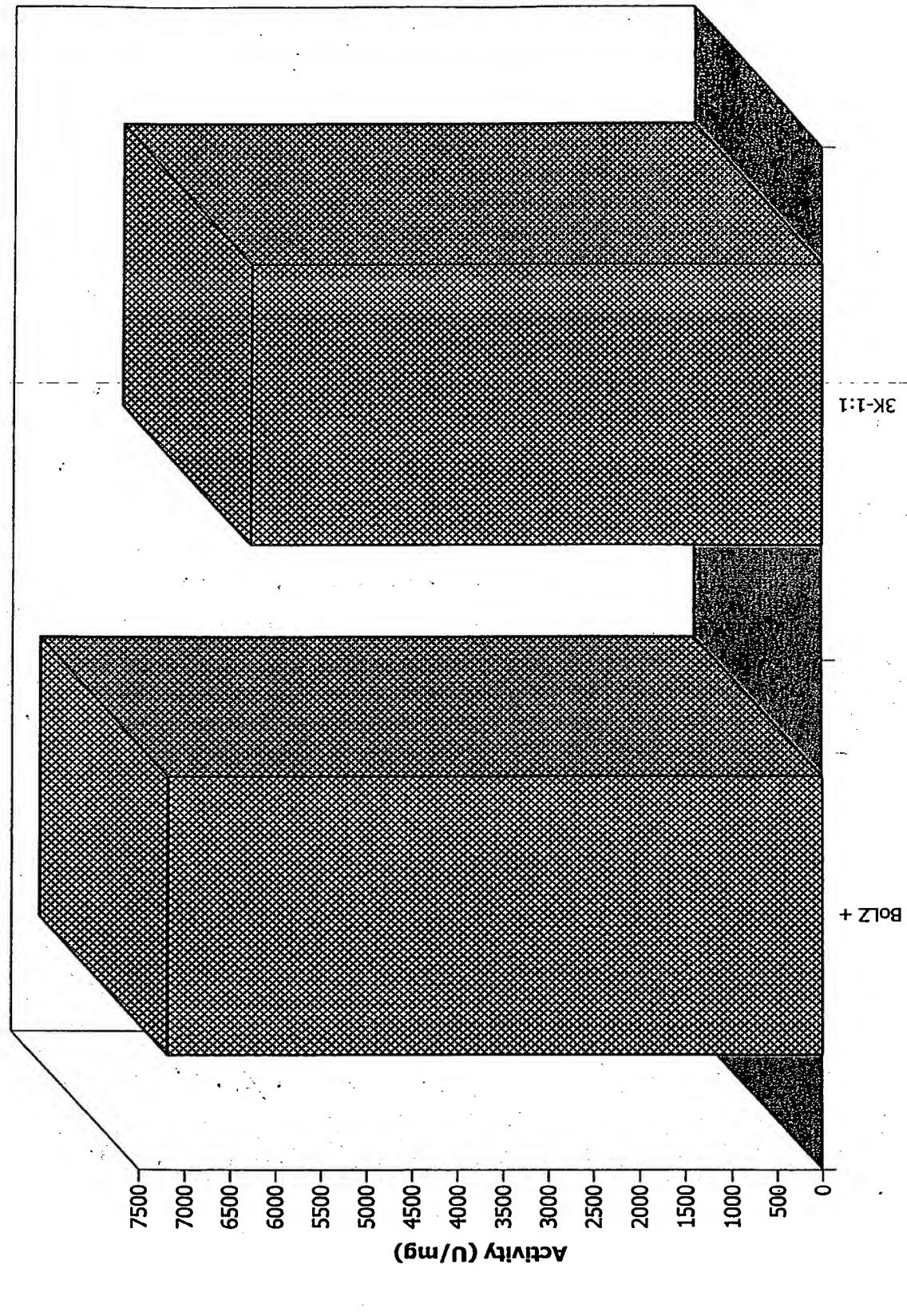


Fig. 7

Turbidimetric Assay done 4/28/00

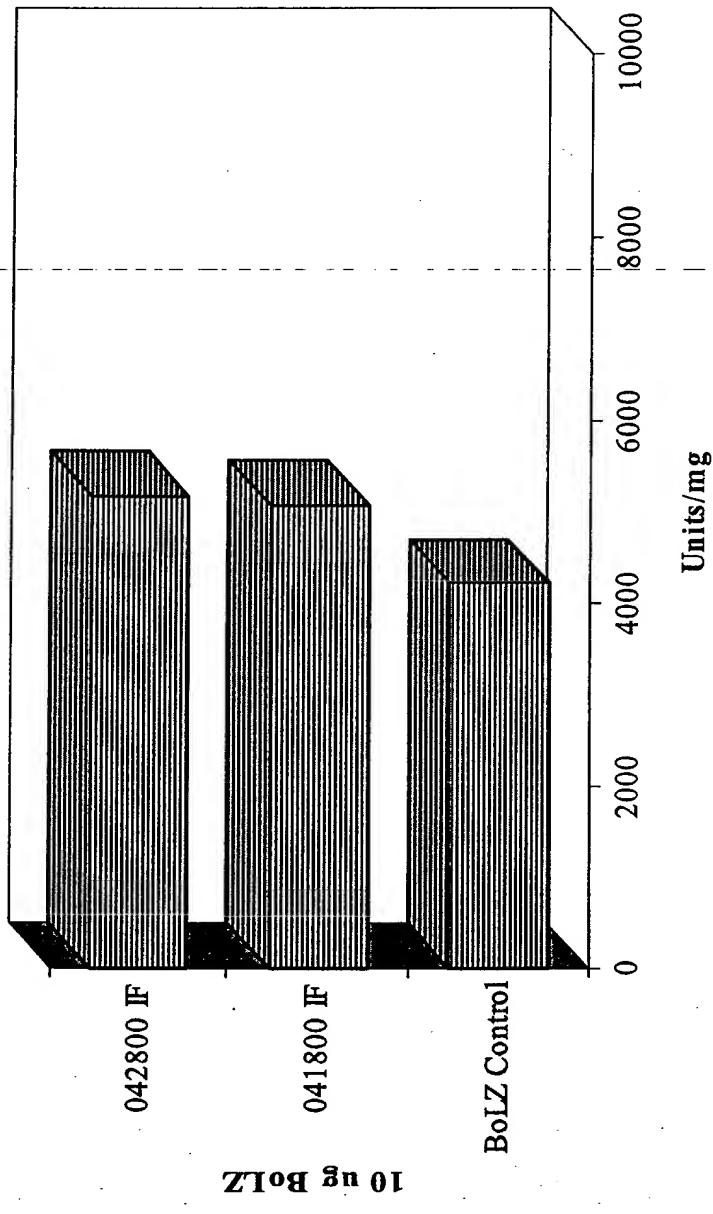
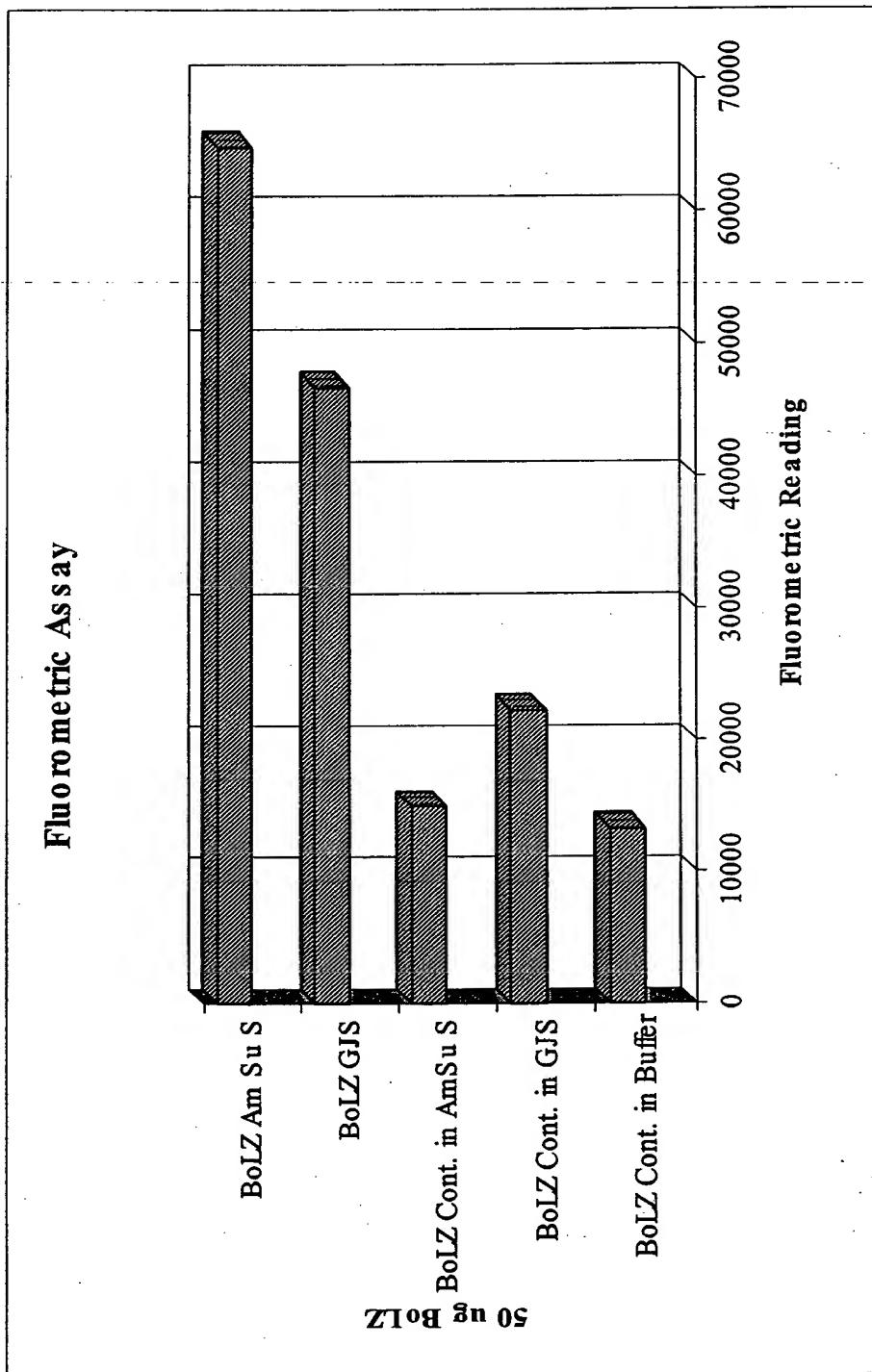


Fig. 8

Fig. 9



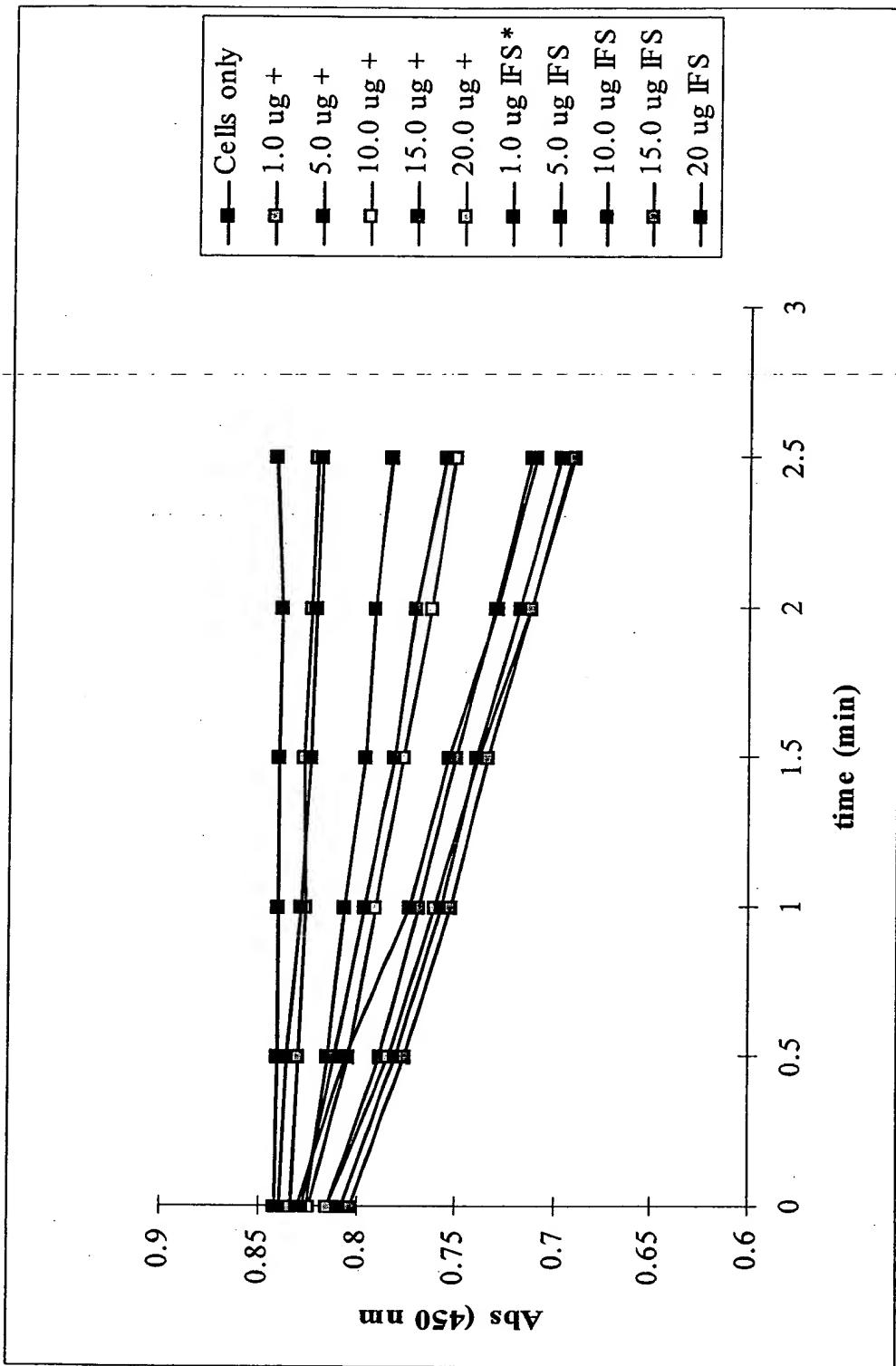


Fig. 10